



# Going International With Mac OS X

## Session 010



X

Worldwide OS



# Agenda

- Why go international?
- Retail solutions
- International Technologies to help you
- Localization, how to



International  
Markets = Opportunities



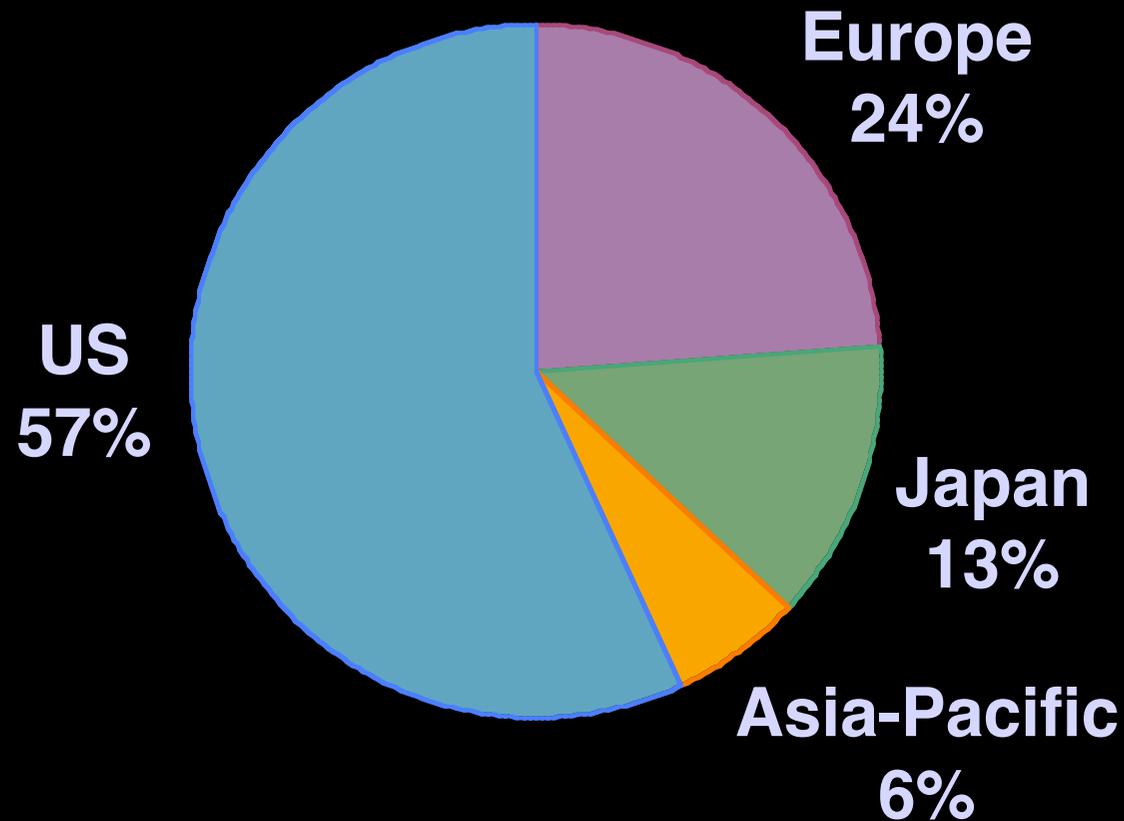
International  
Markets = \$ \$ \$



International  
Markets = €€€  
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# Unit Sales 2001



# International: Faster Growth

- Europe: 53% unit growth
- Americas: 24%
- Japan: 39%
- Asia/Pacific region: 18%



What Markets  
Should You Consider?



# International Markets

- Japan
  - Largest Mac installed based outside US
- Europe
  - England, France, Germany
  - Spain (Latin America)
  - Italy, Netherlands . . .



# International Markets Retail Solutions



# Getting in the US Retail Channels

Get your products  
into retail distribution.

**NAVARRE**  
CORPORATION

e-commerce  
with no fuss.

kagi

- Navarre Corp:
  - Supplies retail stores such as CompUSA, Circuit City, Micro Center, Fry's Electronics, Babbages/Software Etc.
- Kagi: E-Commerce easy for ADC members



# European Top 50 Program

- Allows developer products to be placed in select retail stores
- ‘One-stop shop’ for retailers



# European Top 50 Program (Cont.)

- Around 750 retail outlets are being supplied with Top 50 core range of titles
- Excellent coverage for
  - UK
  - Germany
  - France



# Japanese Market

- Largest market outside US
- Best to go through a local partner
  - WWDR can help you, contact me . . . .
- Suggestions for Japanese market:
  - <http://developer.apple.com/regions/japan/>



Mac OS X Technologies  
To Help YOU Go International



# Mac OS X International Architecture

- Supports ability to ship single binary packaged with multiple language UIs
  - User selects desired UI language dynamically
- Supports multiple locales in the base OS
- Supports multiple scripts in the base OS
- Full Unicode support



# Current Mac OS X Intl. Product

- A single Mac OS X 10.1 CD supports:
  - 15 language UIs (French, Japanese, German, English, Italian, Spanish, Dutch . . .)
  - All locales associated with these languages (French Canadian, British English, etc.)
  - Roman, Japanese, Chinese, Korean scripts



# Jaguar Will Have Support For:

- Tier 3 languages
- Extended Chinese font (GB18030)
- Better input methods for J and TC/SC

New Languages Are Supported  
Only Through Unicode



# Jaguar: New Languages

- Central European scripts:
  - Polish, Bulgarian, Hungarian, Croatian, Czech
- Cyrillic scripts:
  - Russian and Ukrainian
- Modified Roman:
  - Turkish, Icelandic, Greek, Romanian
- Complex scripts:
  - Thai, Indic, Arabic, Hebrew



New Languages Are Supported  
Only Through Unicode



# Mac OS X: Unicode Advantages

- One character set for all languages
- More characters for existing languages
- More languages
- No garbled text
- Multiple languages at once
- Cross platform



# Unicode Coverage: Alphabetic

- Lucida Grande
  - Extended Roman
  - Cyrillic
  - Vietnamese
  - Greek
- Times, Helvetica, etc.
  - Extended Roman



# Unicode Coverage: Japanese

- Hiragino: 6 DTP quality OpenType Type 1 fonts
- Industry-leading character coverage
  - Full JIS X 0213
  - Adobe Japan 1-4
  - Shaken 78 Phototypesetting Kanji
  - NLC shape recommendations
    - (国語審議会表外漢字字体表)



# Unicode Coverage: Japanese

- Over 20,000 glyphs vs.  $\approx 7,000$  in MacJapanese
- Gaiji problem greatly reduced
  - Data reusable and cross platform



# Going International With Mac OS X

- Delivery mechanism
  - Bundling
- New features in Jaguar
  - Localized view of file system
- Text Technologies to help
- Tools to help localize your app



# Bundling Your App

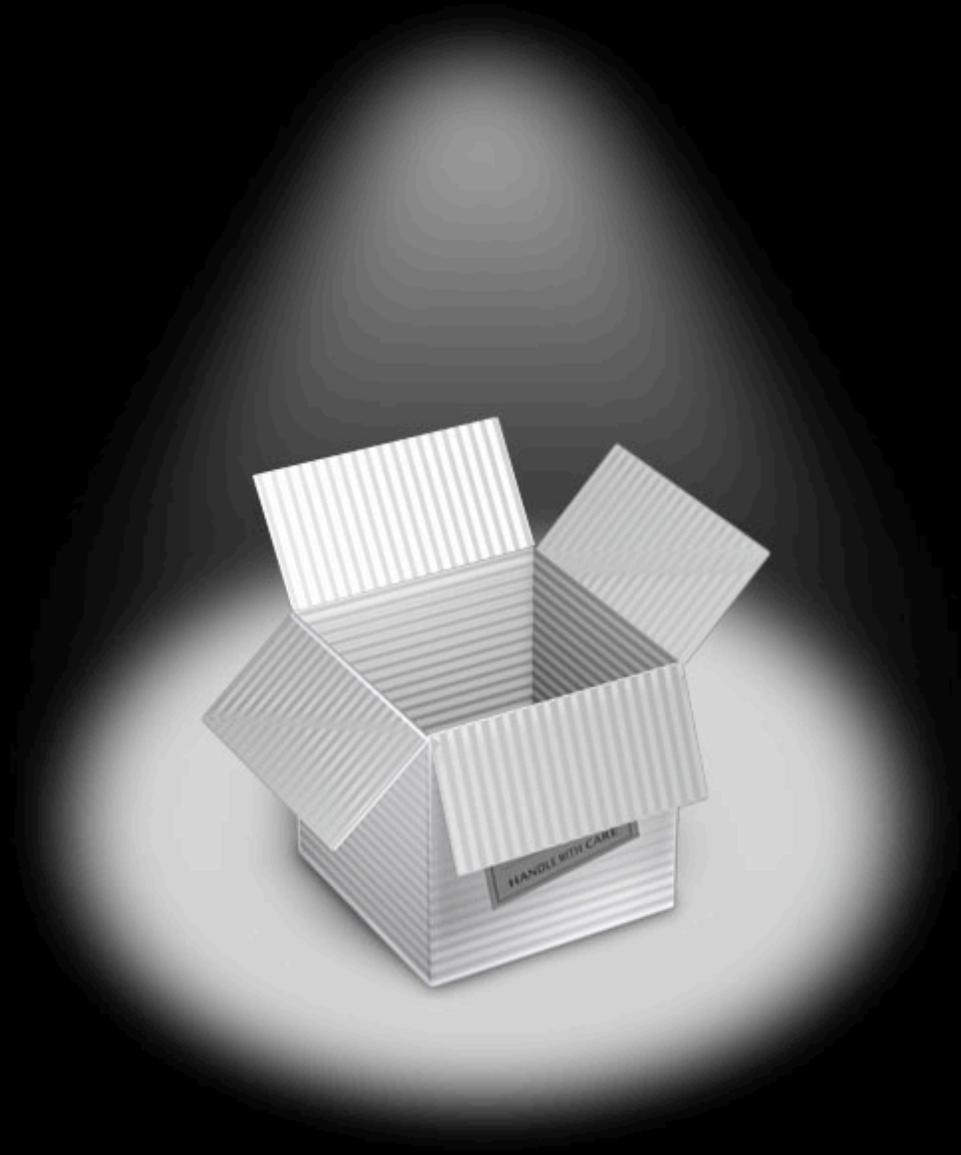


# Application Bundle

- Structured directory
- Identified by: bundle bit, package info file, .app
- Presented as a single icon



# Inside an Application Bundle



# Application Bundle

- Multiple binaries
- Multiple localizations
- Supports both CFM and Mach-O binaries
- Can be launched on Mac OS 9
- Not just for applications

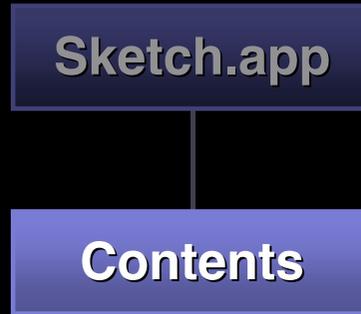


# Application Bundle

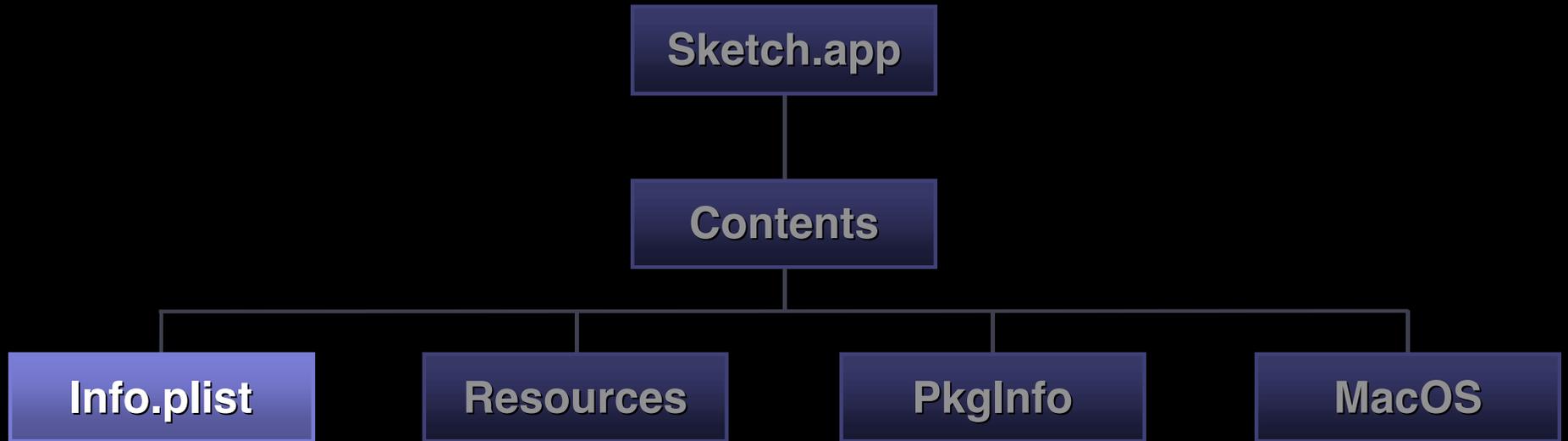
Sketch.app



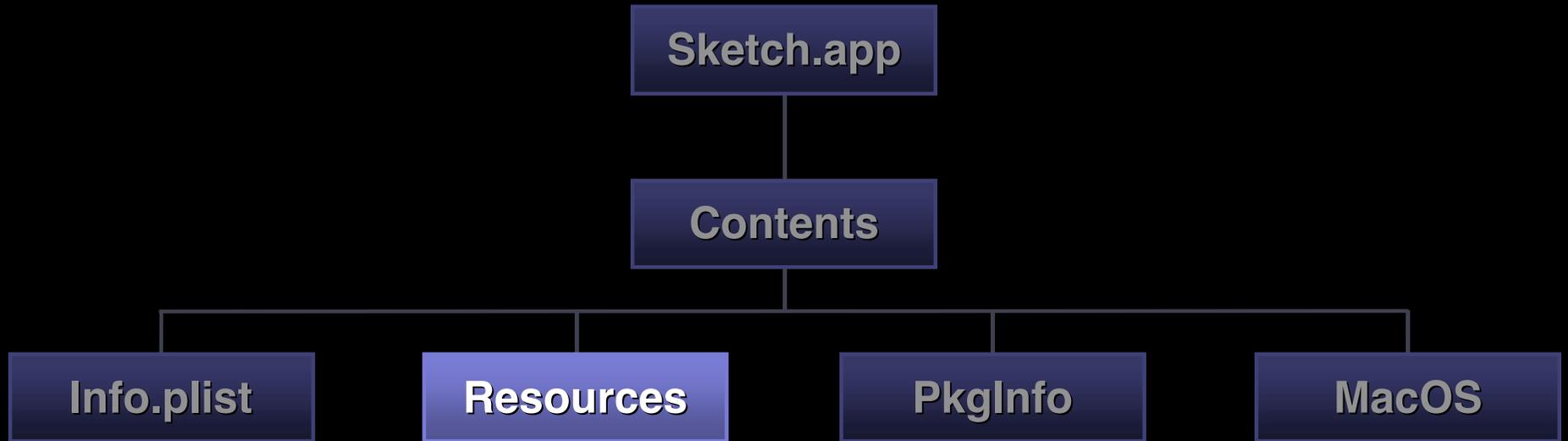
# Application Bundle



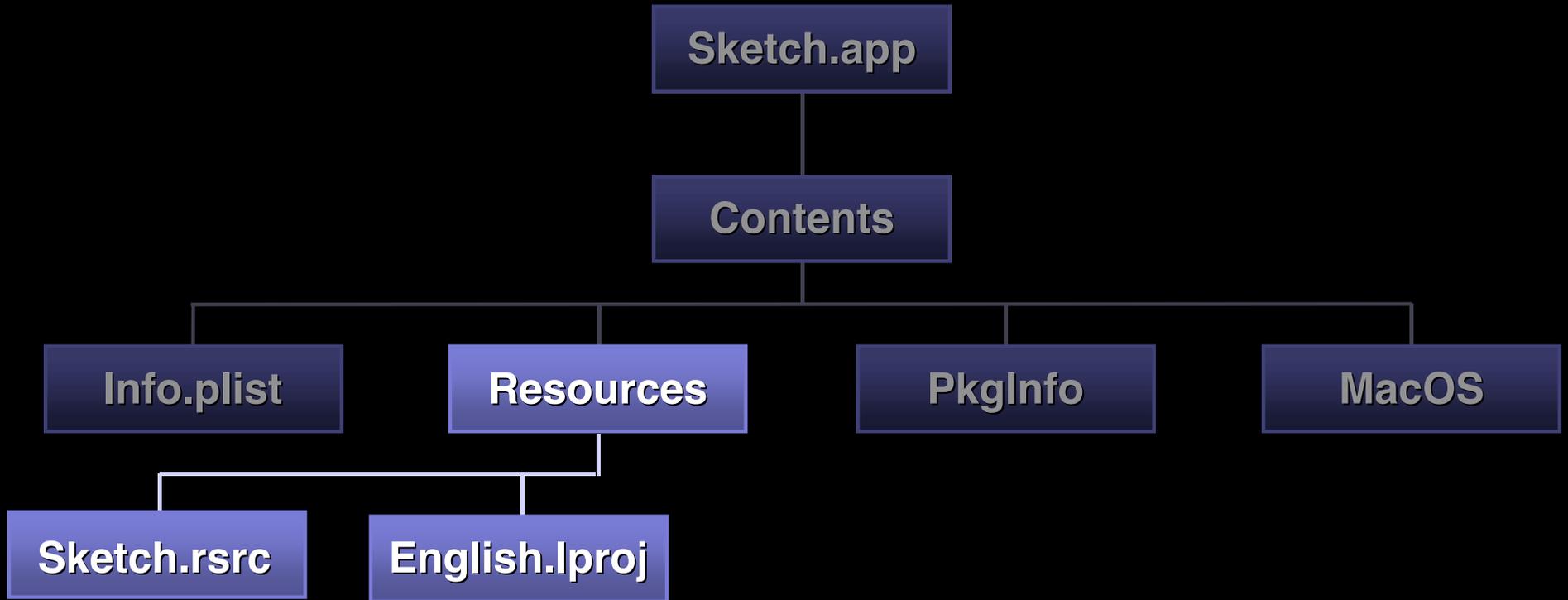
# Application Bundle



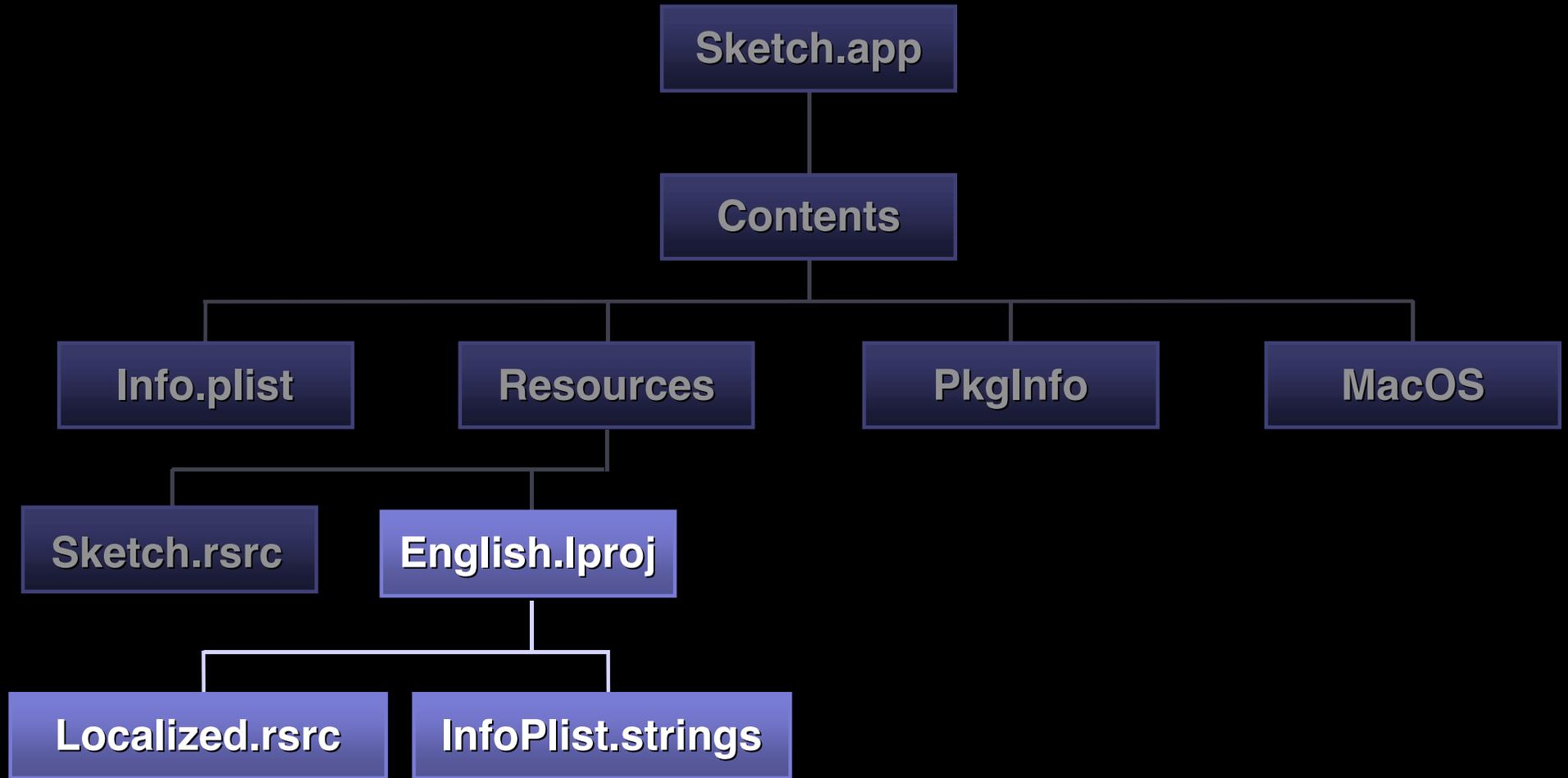
# Application Bundle



# Application Bundle



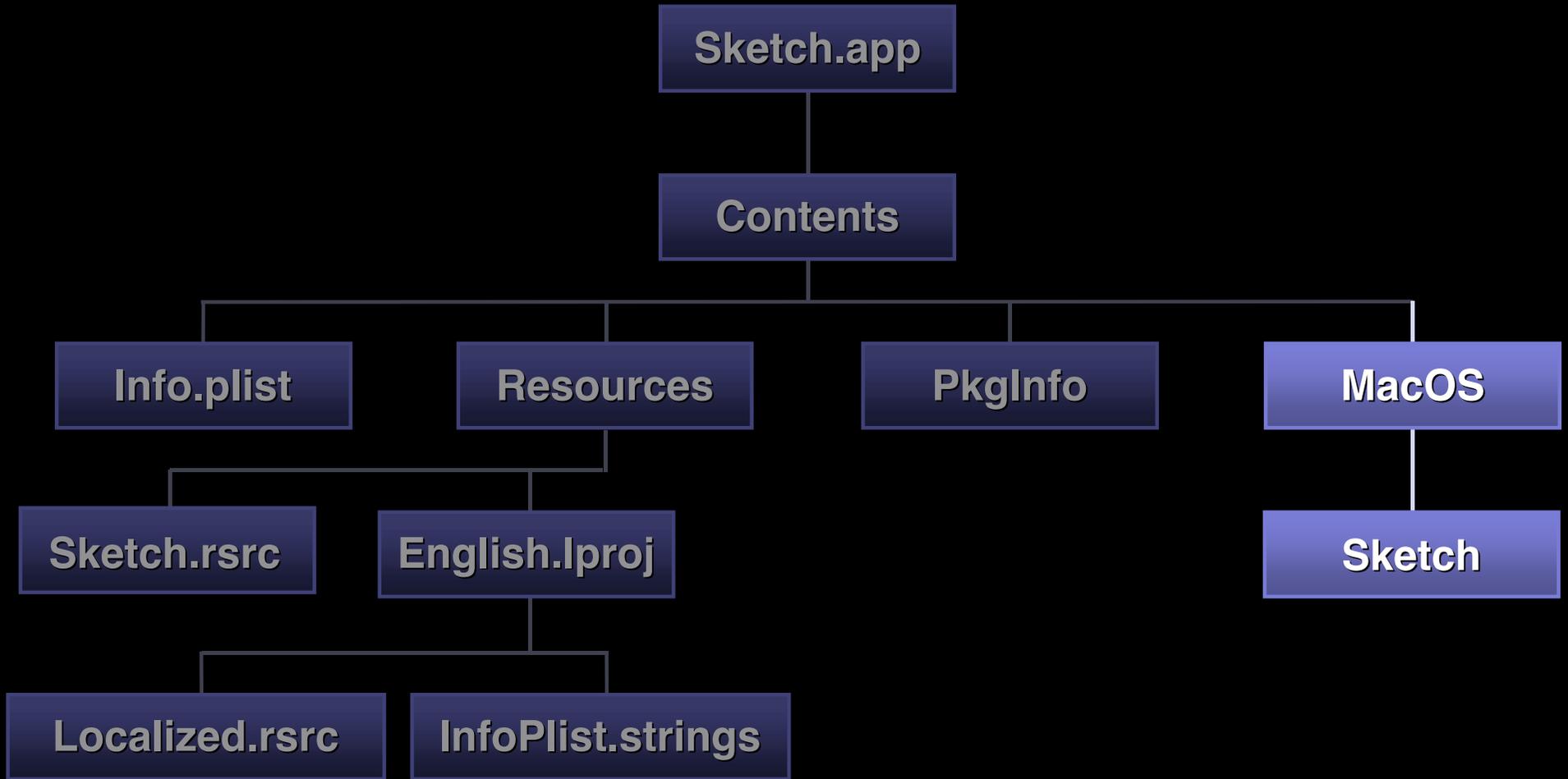
# Application Bundle



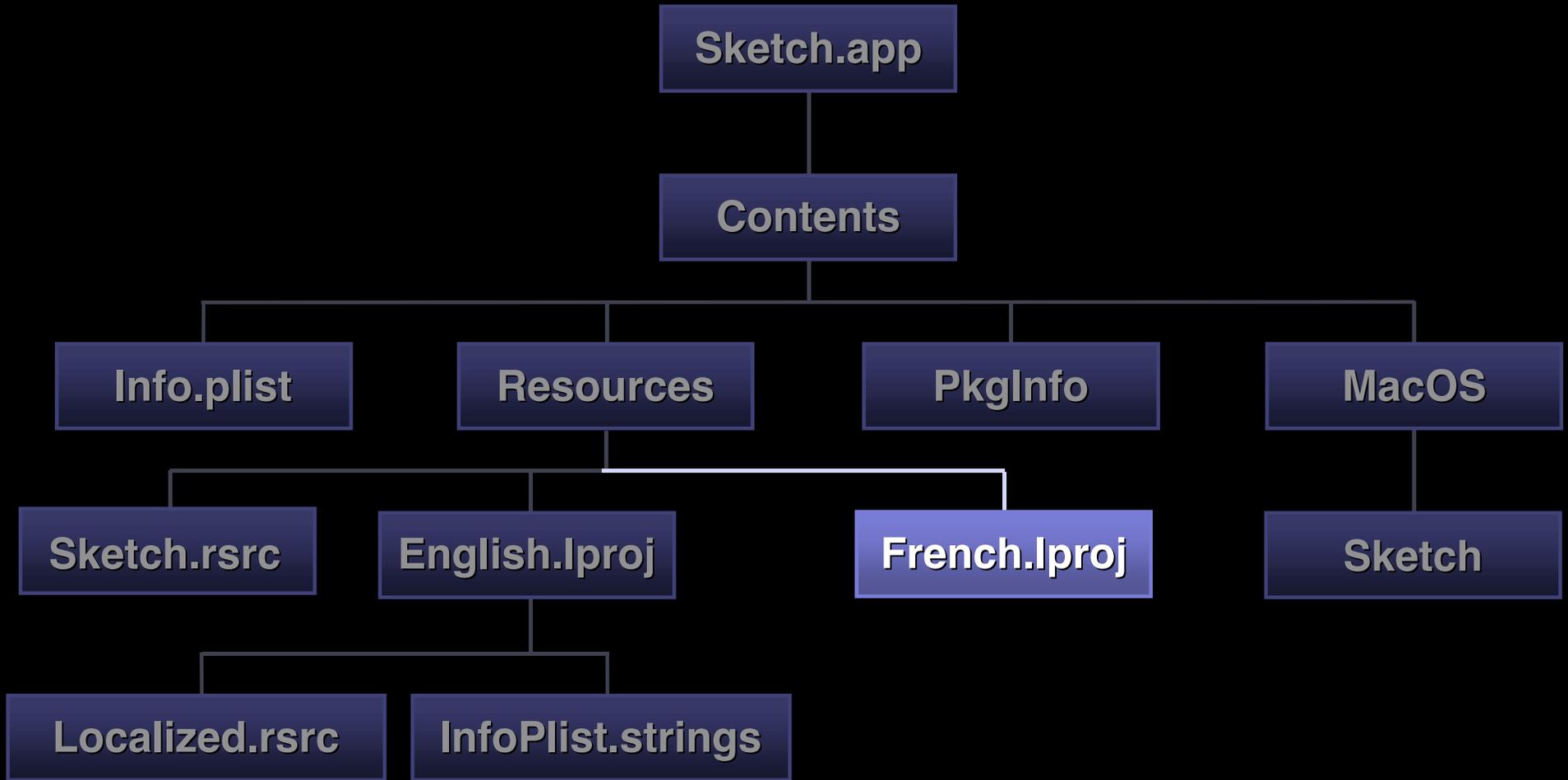
# Application Bundle



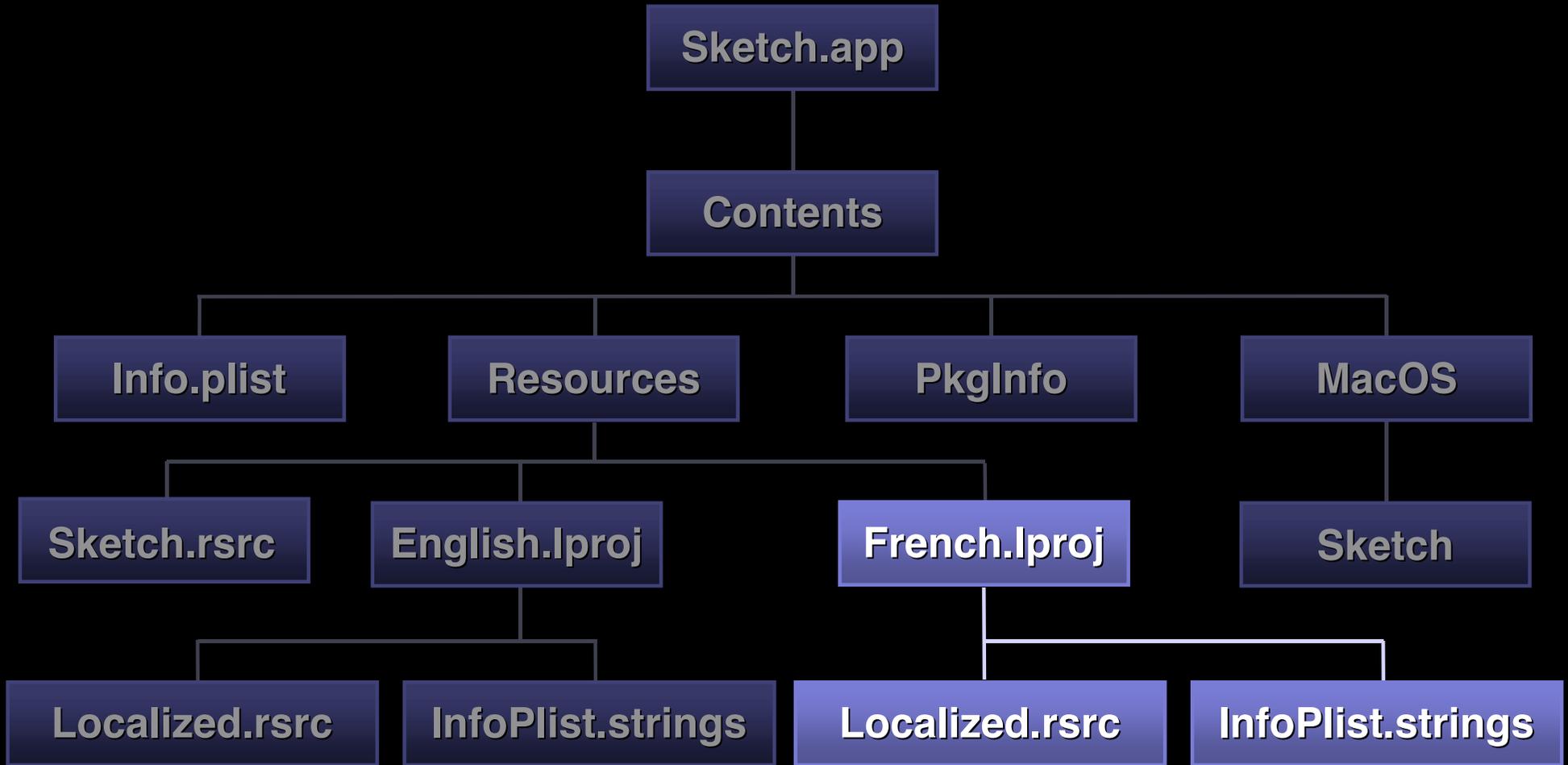
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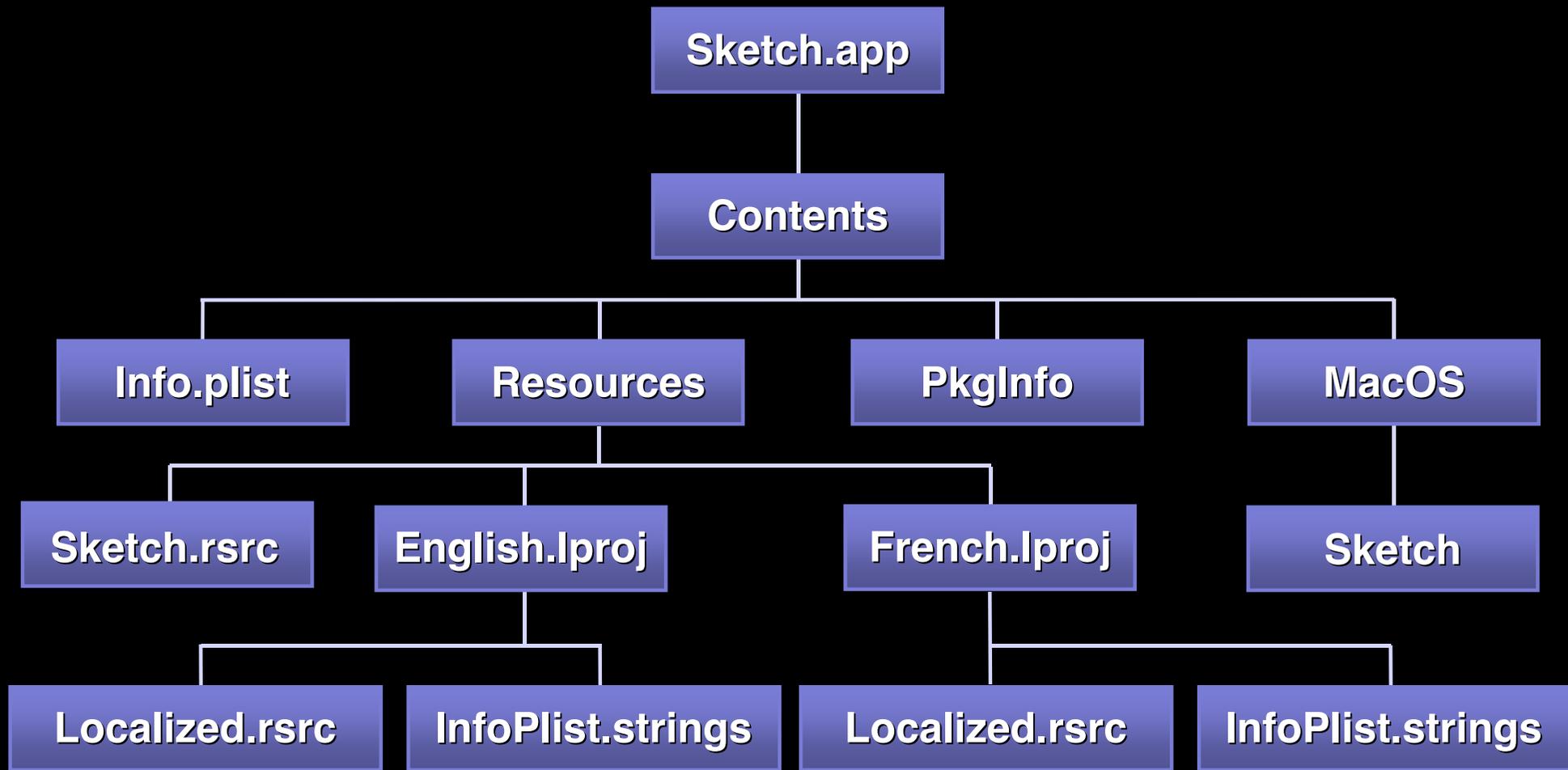


# Adding New Languages



# Adding New Languages





# Localized View of File System

- Your application is bundled
- You support 15 languages

Your application name is in English!

Not anymore!



# Localized View of File System (Cont.)

- Goals:
  - Enable localized view of the file systems
  - Enable multiple simultaneous localizations
  - Enable developers to localize their product names



# Localized View of File System (Cont.)

- Apps and bundles get localized by:
  - Info.plist contains
    - **CFBundleName = "NonlocalizedName"**
    - **LSHasLocalizedDisplayName = true**
  - InfoPlist.strings contains
    - **CFBundleName = "LocalizedName"**



# What About Folder Names?



# Localized View of File System (Cont.)

- Folders get localized by:
  - Add .localized extension to your folder
  - Create a MyFolder/.localized/folder
  - Create a file for each language
    - MyFolder/.localized/ en.strings
    - Example:
      - **"FolderName" = "frenchName"**
- Check ISO 639-1 for list of languages





Demo

# What Do I Need to Go International?

- Text handling technologies
  - Input
  - Layout
  - Display
- Localization process, translation



# Case 1: Cocoa



# Case 1: Cocoa

- All controls in Cocoa are “intl” ready
  - Use unicode input
  - Use ATSUI for unicode layout
  - Render unicode text

Cocoa text objects get international support for FREE



# Case 2: Carbon



# Old International Text Editing

- Install TSM handlers
- Install drag handlers
- Create scrollbars and install active scrolling handlers
- Manage your internal pasteboard
- Manage the save and open



# New International Text Support

- DrawTheme APIs
- Appearance controls
- ATSUI
- MLTE
- CFString
- Use Unicode!

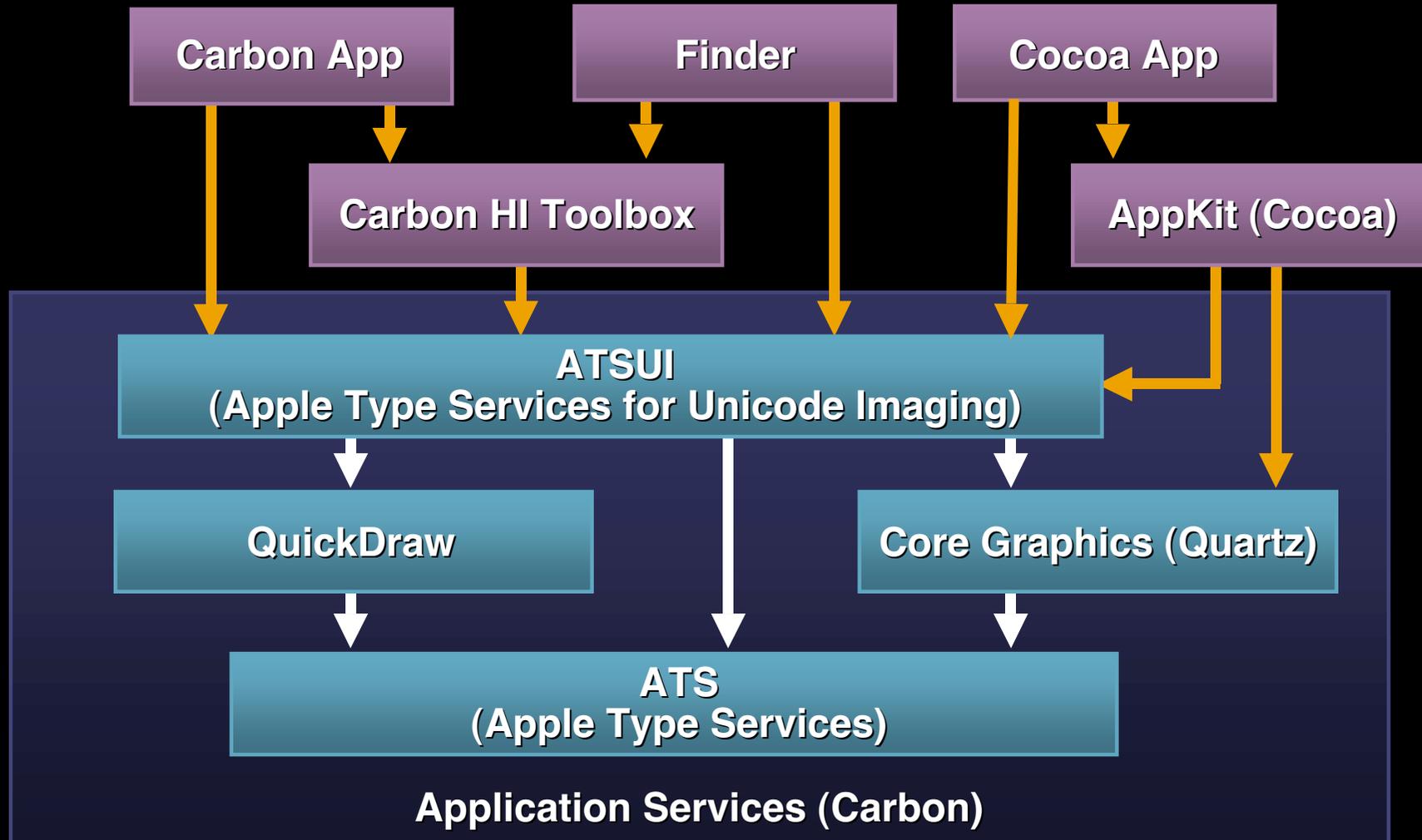


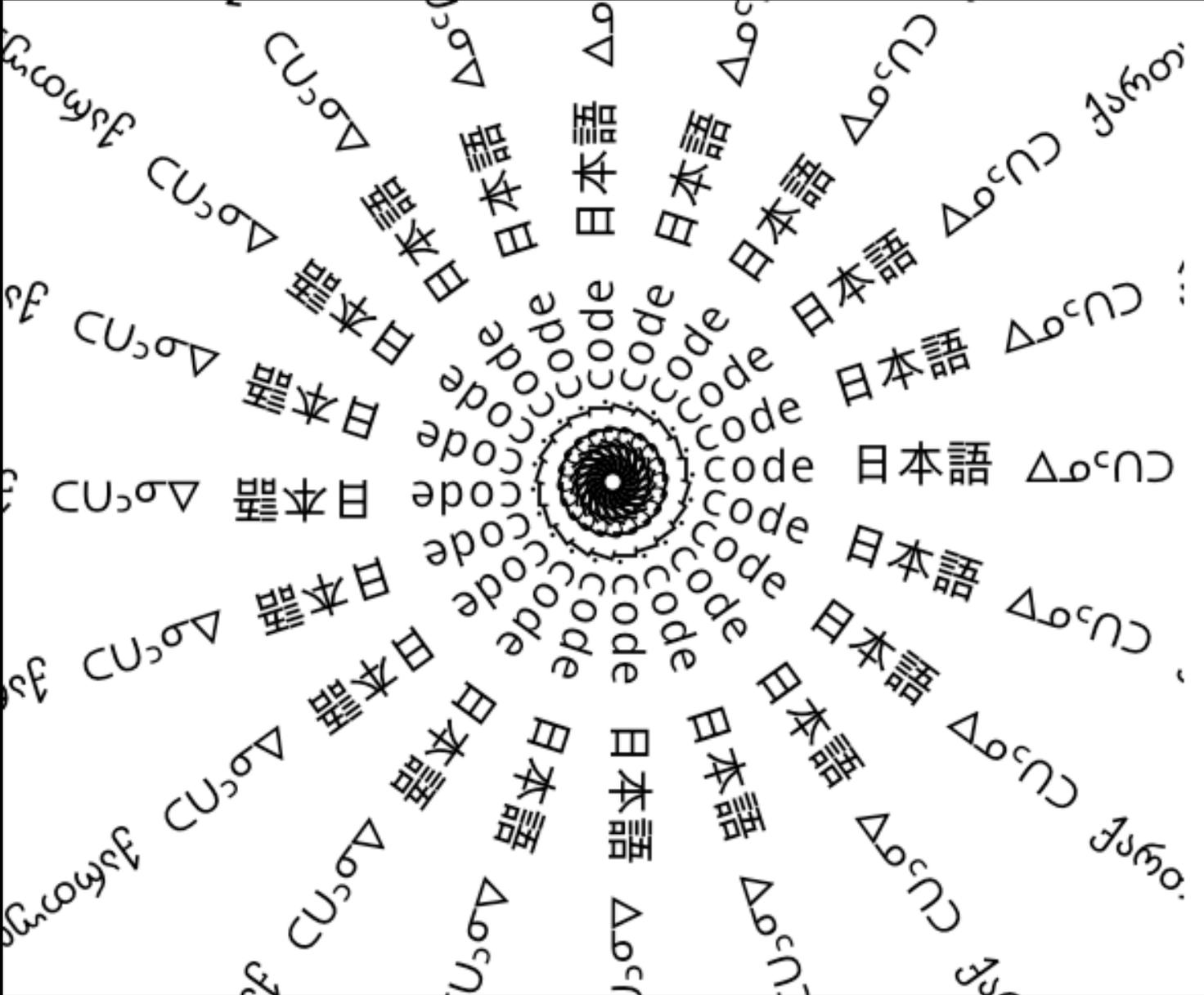
# ATSUI

- Full Unicode 3.2 Layout Support
  - Truly Multilingual—one set of API to support all languages
  - Combining characters and complex scripts
  - Languages not covered by WorldScript I or II
  - Replaces WorldScript I on Mac OS X
- Automatic Font Substitution



# ATSUI Throughout Mac OS X





# Carbon: MLTE (MultiLingual Text Engine)

- You will get for free . . . .
- Unicode—input, editing, and display
- Addresses many TextEdit limitations
- Handles low-level managers transparently
- Provides easy access to ATSUI advanced typographic features
- Quartz Rendering



# Strings in Your Application

- Use CFStrings as much as possible instead of (char \*)
- Unicode can represent text in almost any language
- CFStrings are Unicode strings
- CFStrings have support for converting between many other encodings



# Localization . . . .

- Localization process
  - Appleglot 3.0, Monte APIs
- Package your application
  - More languages in one package
  - More flexibility, easy to adopt



# Localization Made Easy

- Appleglot 3.0
  - Text Extraction and Insertion Tool
  - Works on Mac OS X
  - Supports bundled application
  - Supports Cocoa and Carbon apps



# Localization Made Easy (Cont.)

- Translation and Localization Services
  - RWS Polyglot
  - Fauchoux Translation Services
  - LocTeams
  - . . . Many more





# Summary

International  
Markets = Opportunities



Unicode  
Is the Way to Go



# Bundle Your Unicode Application!



# Some URLs . . .

- International Technologies
  - <http://developer.apple.com/intl>
  - <http://developer.apple.com/regions/japan/>
- Top 50 program
  - <http://developer.apple.com/mkt/top50.html>
- Technical reports, code charts, sample code
  - <http://www.unicode.org/>
- Font specs and font tools
  - <http://developer.apple.com/fonts>



# Who to Contact

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Mac OS X Evangelist

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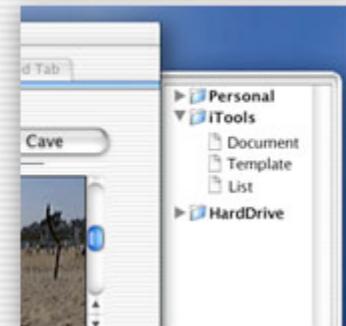
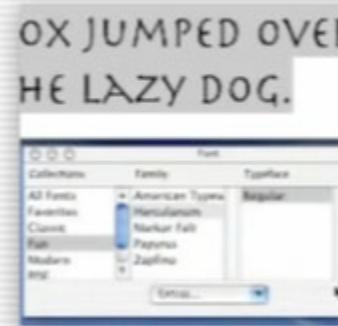
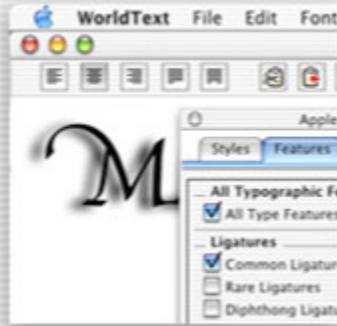
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<http://developer.apple.com/wwdc2002/urls.html>





# Q&A



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